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OBJECTIVITY OF THE DEFENSE SCIENCE BOARD'S TASK FORCE ON EMBEDD--ETC(U)
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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

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The Honorable Jack Brooks
Chairman, Committee on
Government Operations
House of Representatives

Dear Mr. Chairman:

Subject: Objectivity of the Defense Science Board's Task
Force on Embedded Computer Resources Acquisition
and Management (GAO/FPCD-82-55)

This report responds to your March 23, 1982, request that we review the operations of the Defense Science Board (DSB) and the objectivity of DSB's Task Force on Embedded Computer Resources Acquisition and Management. DSB convened this task force to review, evaluate, and make recommendations on the Department of Defense's (DOD's) acquisition, management, and utilization of computers to support its military mission.

We reported to you earlier, 1/ that although proposed DOD Instruction 5000.5x on computer standardization had merit during the mid-1970s, its validity in the 1980s was questionable. We concluded that standardization as called for by 5000.5x would minimize opportunities for DOD to capitalize on new developments in the commercial marketplace. We recommended that the Secretary of Defense direct the services to reevaluate their ongoing standardization efforts.

Although the task force's report on 5000.5x and related matters had not been finalized when we issued this report, the Secretary of Defense reaffirmed his commitment to DOD's policies on embedded computers on April 2, 1982.

1/"DOD Instruction 5000.5x, Standard Instruction Set Architectures for Embedded Computers" (MASAD-82-14, Jan. 27, 1982).

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DSB is expected to recommend that DOD proceed with the embedded computer policies as described in 5000.5x. DSB announced its support of 5000.5x at an American Defense Preparedness Association meeting in January 1982. Also, the task force formally briefed DSB on the results of its study in February 1982.

OBJECTIVE, SCOPE, AND METHODOLOGY

The objective of this review was to inquire into the objectivity of the task force's decisionmaking process. Our review was made in accordance with our Office's "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions."

We reviewed DOD documents on DSB and the task force; examined Federal laws and regulations on advisory committees and conflict of interest; examined financial disclosure statements filed by DSB, the task force, and certain DOD officials; and interviewed DOD officials, including a representative of DOD's Office of General Counsel.

We interviewed all members of the task force on procedures and policies followed during the task force meetings. We also interviewed officials from 23 computer firms and associations who commented on 5000.5x to obtain their opinion on the composition of the task force and its consideration of information they provided.

We also talked to representatives of the Congressional Research Service because they had raised questions concerning the acceptability of the task force report. Their questions were based on the fact that certain task force members had recognized interests in the outcome of the study.

BACKGROUND

DSB is made up of 33 members--28 at-large members, a Chair and Vice Chair from the civilian sector, and the three Chairmen of the Army, Navy, and Air Force scientific advisory groups. The civilian members are appointed by the Secretary of Defense on the basis of the Under Secretary of Defense for Research and Engineering's (USDRE's) recommendations and the members' preeminence in the fields of research and engineering. DSB conducts its work primarily through task forces.

In August 1981, USDRE requested that the DSB Chair convene a task force on embedded computer resources acquisition and management. The task force included 11 members and an executive secretary. Four military observers provided the military perspectives to the task force and acted as a communications link between the services and the task force.

The task force was to examine whether current policies, as well as those proposed to govern computer standardization as described in proposed DOD Instruction 5000.5x are appropriate. The objectives of 5000.5x are to curtail high costs from hardware and software proliferation and increase the effectiveness of embedded computer management. To accomplish this, DOD chose to limit the number of architectures that could be used for the design and development of computer hardware and software at the instruction set architecture (ISA) level. ISA specifies the interface between software and hardware and describes the structure and functional behavior of a computer.

Although DOD has not formally adopted Instruction 5000.5x, DOD has been using its principles and policies since 1978. Over 25 firms have contracts that are aligned to some degree with the standardization policy.

At the time of the task force's deliberations, the Army had entered into four advance development contracts aimed at the eventual selection of a single production contractor to fill the Army's requirements for embedded computers. To date, DOD has eliminated one contractor from the competitive selection process. Of the remaining three, two will be awarded engineering development contracts, and one of those two will be awarded the Army's production contract for embedded computers.

In the Navy's program, two companies have been awarded engineering development contracts for the Navy's two shipboard computers. One of those two companies will be awarded the production contract for the computers. A third company has been awarded the Navy's production contract for airborne computers.

The Air Force has approached standardization differently. Unlike the other services, it has avoided standardization below the ISA level. In doing so, it has contracted with over 20 companies, each of which are producing a different item to meet Air Force specifications for embedded computers.

It should be noted that the stakes underlying the various standardization efforts are high. Some companies, heavily engaged in providing computers to support DOD missions, have little or no commercially oriented computer capabilities. It would benefit such firms if DOD established a policy of standardizing on their computer lines. If DOD relied upon the commercial market for computer innovations, these military-oriented companies would stand to lose business.

The proposed policy contained in 5000.5x has not been well received by all segments of the computer industry and concerns have been expressed by both industry and congressional representatives. These concerns include the fears that proposed DOD Instruction 5000.5x would

- eliminate many competent computer companies from the military embedded computer market,
- preclude DOD from taking advantage of current and anticipated advances in computer technology, and
- inhibit commercially funded hardware and software research and development investments.

Because of the high stakes, the task force was faced with an extremely sensitive issue. To be of value, the results of the task force deliberations would have to be credible to individuals with widely divergent views. To assure credibility, DOD needed to assure that (1) the task force membership fairly represented all affected segments of the computer industry, (2) members were free of financial interests that would conflict with or give the appearance of conflicting with the mission of the task force, and (3) the task force considered all viewpoints in its deliberations.

DOD DID NOT TAKE ADEQUATE STEPS
TO FORM A BALANCED TASK FORCE

In accordance with the Federal Advisory Committee Act, DSB policy contemplates that task force membership be balanced in perspectives and expertise. In our opinion, DOD did not take adequate steps to assure that the task force was balanced. Task force members generally came from consulting firms or military-oriented computer firms currently under contract to the services.

The task force executive secretary told us that commercially oriented computer firms were not represented on the task force because they would have "something to gain." He indicated that, although some firms represented on the task force have standardization contracts, they are diversified and that the task force members from these firms did not work in subunits that performed work under existing standardization contracts.

We interviewed officials of computer firms and associations that provided comments to DOD on 5000.5x and related issues. Officials from 13 of the 23 organizations contacted commented on the task force composition. The others either stated that they were not knowledgeable about the task force's composition or did not want to comment. Of the 13 comments received, 8 officials stated they believed the task force was unbalanced. The remaining five did not consider balance to be a problem.

In our opinion, the task force, in order to be balanced, should have fairly represented all segments of the computer industry that could be affected by the proposed policy. By limiting involvement of commercially oriented computer firms, DOD failed to create a balanced task force.

DOD DID NOT TAKE ADEQUATE STEPS
TO PREVENT THE APPEARANCE
OF CONFLICTS OF INTEREST

DOD Directive 5500.7 (Standards of Conduct, Jan. 15, 1977) prohibits employees from engaging in personal, business, and professional activities or retaining direct or indirect financial interests that cause or give the appearance of conflict of interest. Special Government employees--such as those serving on DSB and its task forces--must submit financial disclosure forms for DOD's review. If these employees are found to have actual or apparent conflicts of interest, remedial action to prevent the apparent conflict is required.

We reviewed financial disclosure statements of task force members and found that 7 of the 11 members had financial interests in one or more of the firms that have standardization contracts under the Army, Navy, or Air Force programs:

- Two members received salaries from and had stock holdings in at least one of the standardization contractors. One received a salary and held stock in an Army contractor. The other received a salary from an Air Force contractor and held stock in contractors for all three services.
- Two received salaries from one of the standardization contractors; one from an Army and the other from a Navy contractor.
- One held stock in both Army and Navy standardization contractors.
- Two received consulting fees from Air Force standardization contractors.

Two of the seven members whose interests are noted above also had interests in commercially oriented computer firms that did not have DOD standardization contracts. An additional member had a stock interest in a major commercially oriented firm.

Although the task force examined the standardization programs of all the services and the related DOD 5000.5x policy, the task force focused on the Army's program. Four of the seven members had financial interests in Army standardization contractors.

DOD placed a low priority on
reviewing financial disclosure forms

DOD did not review, approve, and certify all financial disclosure forms in a timely manner. Prior to the first task force meeting, the executive secretary had reviewed and approved only six members' forms. Only two of these had been certified by DOD's Personnel Office as is required by DOD procedures. By the third meeting, only seven forms had been both approved and certified. Three members of the task force were late in submitting their disclosure forms. One submitted the form immediately after the first meeting, while the other two submitted their forms after the task force had finished its deliberations.

DOD narrowly applied criteria
for determining appearances
of conflicts of interest

The problem of appearance of conflicts of interest on the part of task force members is more than a procedural matter. DOD officials narrowly applied criteria for identifying potential conflicts of interest. According to the executive secretary, financial interest in a firm with an Air Force or Navy standardization contract did not cause a concern over conflict since the task force focused mainly on the Army standardization program. Neither did DOD view members with interests in the four firms with Army standardization contracts as raising a conflict-of-interest issue because these members did not personally perform contracted work.

We believe task force members' interests in companies with Air Force and Navy standardization contracts should have been considered as apparent conflicts of interest because if DOD abandoned the policies contained in 5000.5x, these companies could lose a competitive advantage. That is, the number of companies that could compete for contracts would be significantly expanded. These interests raise appearances of conflicts of interest even though the companies may have a commercial computer capability and could perhaps compete in the commercial marketplace for all three services' computer requirements in the absence of 5000.5x.

The more significant appearances of conflicts of interest are raised by the two members who received salaries from one of the Army's advance development contractors. Because that company's computer business is almost solely aligned with DOD, it has a stake in the standardization policy's existence. DOD should not have dismissed these interests solely because the members were not directly working on the Army's advance development contract. A simple stock interest in such a company is sufficient to raise an appearance of a conflict of interest. The stock interests in the three other Army contractors should have been considered in this

light, even if some contractors possess commercial computer capabilities that would enable them to compete in the absence of 5000.5x.

DOD did not take
appropriate remedial action

Generally, an appearance of a conflict of interest can be remedied by disqualifying an individual from matters affecting the company in which the individual has a financial interest. This is DOD's normal practice. However, in the case of advisory committees, disqualification of individual members is not always the most appropriate option. Where the expertise essential to an advisory committee's mission can be obtained only from among classes of individuals with financial interests that create the appearance of a conflict of interest, a balancing of the groups' membership to reflect contrary interests and points of view may be the agency's most appropriate recourse. This is a matter almost entirely within the control of the agency involved.

In the case of this task force, DOD did not seriously consider the conflict-of-interest issues raised by individual task force member's financial interests. As a result, we believe that appearances of conflicts of interest exist and these appearances strengthen the perception of a biased task force.

DOD PROVIDED THE TASK FORCE
INFORMATION DRAWN PRIMARILY FROM
SOURCES SUPPORTIVE OF 5000.5x

Procedures used by DOD to provide information to the task force did not assure that all points of view were considered. DOD provided information to the task force from a variety of sources. These included

- military observers,
- standardization contractors,
- military project managers, and
- computer firms without standardization contracts and associations.

Each of the above sources, except the last, generally supported the policies contained in 5000.5x. Most information from opposing sources was generally limited to written comments. 1/

1/Two computer firms and two associations provided oral testimony to the task force.

Task force members had access to the written comments at the third of four meetings. The executive secretary summarized the comments and provided members copies of his summaries at that meeting. Thus, this information was not actively presented for discussion by the task force. Further, since the task force arrived at conclusions and recommendations and began report writing at the third meeting, members had little time to analyze these comments.

In our discussions with officials of the 23 computer firms and associations, 14 answered our question on whether the task force considered outside comments. The others either had no comment or did not know. Nine told us they did not believe their comments were used and five of the nine stated they believed the task force had made its decision before receiving their comments.

We believe that the divergence of opinions on 5000.5x are significant enough that DOD should have assured that all perspectives were adequately considered--including opinions nonsupportive of 5000.5x.

CONCLUSIONS

The findings of the task force cannot be relied on as an independent assessment of DOD's proposed policies on embedded computer resources acquisition and management.

DOD did not take adequate steps to form a balanced task force representative of the computer community or prevent the appearance of conflicts of interest on the part of task force members. Moreover, the procedures used by the task force in its deliberation did not assure that all points of view were adequately considered. DOD did not take appropriate action to counter the appearance of bias raised by a task force membership heavily representative of DOD-aligned computer interests and by the appearance of conflicts of interest on the part of several task force members.

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As you requested, we did not obtain official comments from DOD on this report. Unless you publicly announce its contents earlier, we plan no further distribution until 30 days from the

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date of this report. At that time, we will send copies to the Secretary of Defense and other interested persons and will make copies available to others upon request.

We are available to discuss this matter further if you so desire.

Sincerely yours,

A handwritten signature in cursive script, reading "Charles A. Bowsher".

Comptroller General
of the United States

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